

Environmental Conservation and Sustainability in South West Nigeria: A Comparative Analysis

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Abstract

This research investigates the state of environmental conservation and sustainability in rural and urban settings of South West Nigeria. The study aims to compare and contrast conservation practices, challenges, and opportunities in these distinct environments. The methodology involves a comprehensive survey conducted in selected rural areas and state capitals, employing both quantitative and qualitative data collection methods. Key findings reveal notable disparities in environmental conservation efforts, influenced by traditional practices, modernization, and policy interventions. The study underscores the importance of tailored approaches for rural and urban contexts, offering valuable insights for policymakers and practitioners working towards sustainable development in South West Nigeria.

Keywords: Environmental Conservation, Sustainability, Rural Settings, Urban Settings, South West Nigeria

1. Introduction

Environmental conservation and sustainability are crucial factors shaping the landscapes of societies globally and South West Nigeria exemplifies this impact [1]. Recognized for its diverse natural settings and evolving socio-economic conditions, the region presents a distinctive case study, particularly in states like Lagos, Ogun, Oyo, Osun, Ekiti, and Ondo. This study delves into the interplay between rural and urban dynamics, aiming to unveil how socio-economic factors influence environmental conservation practices. Through a comparative analysis, it uncovers the complexities of conservation awareness, challenges, and prospects, recognizing the pivotal role of age, income, employment, and education levels in shaping perceptions and actions.

The importance of environmental conservation can't be overlooked, it's indeed a global concern. Environmental conservation in South West Nigeria plays a paramount role in sustaining ecological diversity and the well-being of communities. The preservation efforts focus on biodiversity, ecosystem services, cultural and socio-economic significance, and climate regulation [2].

The health of the environment is intricately linked to the well-being of communities in South West Nigeria [3]. Clean air, water, and access to natural resources directly impact residents' quality of life.

Recognizing and preserving the ecological diversity of South West Nigeria through effective environmental conservation measures is crucial for maintaining biodiversity, ecosystem services, and ensuring the sustainable well-being of communities [4].

The sustainability landscape in rural and urban contexts, the foundation for well-informed and context-specific environmental conservation practices in this vibrant region becomes essential and attracts attention, hence, the research navigates the intricacies of these diverse settings, providing nuanced insights to develop tailored and impactful conservation strategies [5]. As South West Nigeria grapples with the delicate balance between economic progress and ecological preservation, understanding the socio-economic nuances becomes crucial [6].

The ecological diversity of South West region, spanning from the dense rainforests of Ondo to the coastal plains of Lagos, hosts a rich variety of plant and animal species [7]. The Omo Forest Reserve, the Ogun-Osun River Basin, and the Ondo Sacred Forest exemplify the diverse habitats found in South West Nigeria.

1.1. Statement of the Problem

Environmental conservation in South West Nigeria faces significant challenges, requiring focused research and intervention.

Issues like deforestation, pollution, and resource depletion threaten biodiversity and ecosystem stability. Understanding and addressing these challenges is essential for devising effective conservation strategies tailored to the region's unique socio-ecological dynamics.

1.2. Research Aim and Objectives

The research aims to assess and compare environmental conservation practices in rural and urban areas of South West Nigeria, examining biodiversity levels, ecosystem services, and the effectiveness of traditional and modern conservation approaches. The study will identify challenges and opportunities for improvement, providing insights for informed policy and practice. The geographical scope includes selected communities within the South West region, and data will be collected through surveys, interviews, and field assessments over a specific time frame.

2. Literature Review

Environmental conservation and sustainability in South West Nigeria have garnered increasing attention due to the region's unique ecological diversity and the intricate interplay between human activities and natural ecosystems [8]. The literature underscores the significance of understanding and addressing socio-economic factors to formulate effective conservation strategies tailored to the region's specific context. Existing studies emphasize the region's ecological diversity but often lack comprehensive assessments of conservation practices in both rural and urban contexts. The majority of research tends to focus on either rural or urban environments, hindering a holistic understanding of the dynamics influencing conservation efforts. McKinney, 2002 opined that the impacts of urbanization on native species are poorly studied, and established how a highly urbanized human population can greatly improve species conservation in all ecosystems [9].

Several studies highlight the rich biodiversity of South West Nigeria, emphasizing the need to balance economic development with conservation efforts. Research on traditional practices and biodiversity conservation reveals the intrinsic connection between indigenous knowledge and environmental stewardship in rural areas [10]. Such practices, ranging from sustainable agriculture to community-driven rituals, underscore the potential for integrating

traditional wisdom into modern conservation approaches.

In urban settings, rapid urbanization has led to challenges such as habitat loss, pollution, and increased demand for resources. Acknowledges the dual role of modernization in contributing to environmental challenges and providing opportunities for sustainable practices [11]. The study advocates for the integration of smart technologies and government policies to mitigate environmental impact in urban areas.

Furthermore, the socio-economic landscape plays a pivotal role in shaping conservation practices. Work on urban environmental policies emphasizes the influence of economic factors on environmental initiatives in urban settings [12]. Economic constraints in rural areas, as highlighted by report on community-based conservation initiatives, pose challenges for adopting advanced conservation technologies [13].

Education emerges as a key determinant of conservation awareness and practices. Studies, such as assessment of environmental awareness, highlight the positive correlation between education levels and environmental consciousness [14]. Access to education, as demonstrated in Table 4 of this study, becomes a crucial variable in understanding the potential drivers of conservation behavior among respondents.

The comparative analysis presented in this study aligns with existing literature by recognizing the diverse socio-economic factors influencing environmental conservation in both rural and urban settings. The findings contribute to the ongoing discourse on the need for tailored conservation strategies that consider age, income, employment, and education levels to ensure sustainable practices in South West Nigeria.

In conclusion, the literature review underscores the intricate relationship between socio-economic factors and environmental conservation in South West Nigeria. By building upon existing knowledge, this study aims to deepen our understanding of how these factors influence conservation practices and contribute valuable insights for the development of context-specific and effective conservation strategies in the region.

3. The Study Area

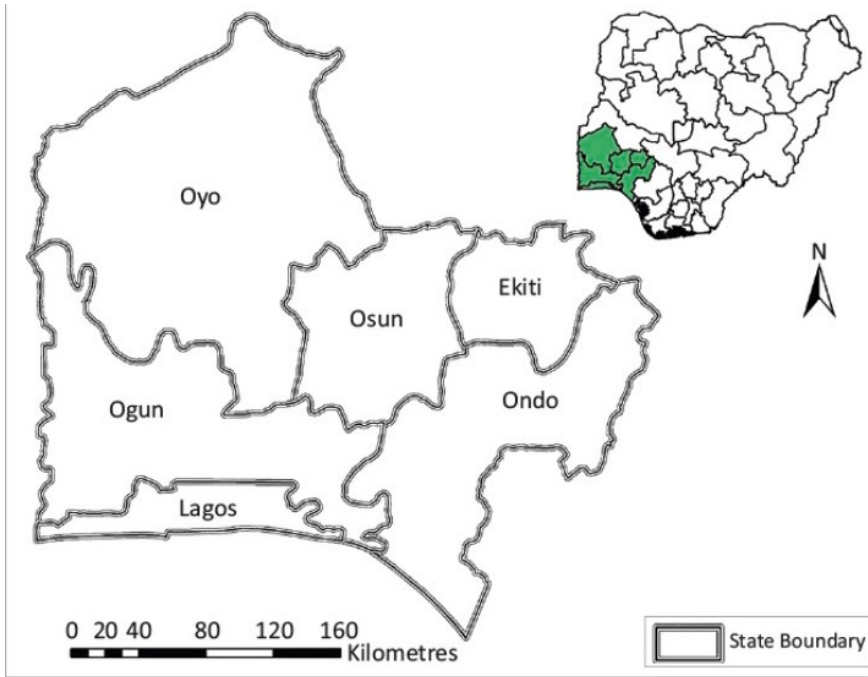


Figure 1: Map of South West Nigeria (The Case Study)

The study area encompasses the southwestern region of Nigeria, comprising six states: Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti. This region is characterized by diverse geographical features, including coastal areas along the Atlantic Ocean, fertile agricultural lands, and forested areas in the inland areas. Notable urban centers within the South West include Lagos (the largest city in Nigeria and one of the fastest-growing urban areas in the world), Ibadan, Abeokuta, Osogbo, Akure, and Ado-Ekiti, these cities serve as significant economic, commercial, and administrative hubs in the region [15]. South West Nigeria showcases a diverse geographical and ecological landscape. From the coastal plains of Lagos to the hills of Oyo, the region is home to varied ecosystems, fostering rich biodiversity. As an economic hub, particularly in Lagos, the region blends urban dynamism with rural tranquility, presenting both challenges and opportunities for sustainable development [16].

5. Results and Discussion

This dynamic study area also encompasses renowned educational centers, fostering intellectual vibrancy, while ongoing urbanization and infrastructure advancements characterize the region's evolving socio-economic landscape. By navigating the complexities of South West Nigeria, this study seeks to unravel the socio-economic intricacies influencing environmental conservation, providing insights that resonate with the region's diverse demographics and economic activities.

4. Methodology

A sample of 200 respondents was selected from both rural and urban areas, to participate in the study. The primary data was gathered using a thoughtfully crafted questionnaire, complemented by secondary sources such as textbooks, journal articles, online resources, maps, and periodicals. Descriptive statistical methods were employed for the analysis of the collated data.

Age Group	Frequency	Percentage
15-24	60	30
25-34	80	40
35-44	30	15
45-54	25	12.5
Above 54	5	2.5
Total	200	100

Table 1: Demographics Analysis (200 Respondents)

Source: Researchers’ field work (2023)

The demographics analysis in table 1 above, showcases a varied age distribution among the 200 respondents, capturing a comprehensive view of the study population. Individuals aged 15-24 constitute 30%, while the majority falls within the 25-34 age range, representing 40% of the respondents. Further, the age groups of 35-44, 45-54, and those above 54 contribute

15%, 12.5%, and 2.5%, respectively. This inclusive distribution provides insights into the diverse socio-economic backgrounds and perspectives across different age brackets. Such diversity is pivotal for understanding the broad spectrum of attitudes and practices related to environmental conservation and sustainability in South West Nigeria.

Income Category	Frequency	Percentage
Low (Less than 1,000,000/Year)	60	30
Moderate(1,000,000 - 3,000,000/Year)	80	40
High (3,000,000 - 5,000,000)	40	20
Very High (Above 5,000,000)	20	10
Total	200	100

Table 2: Income Distribution (200 Respondents)

Source: Researchers’ field work (2023)

Table 2 reveals the income distribution analysis, illustrating a diverse economic landscape within the respondent population. Individuals falling into the low-income category (earning less than 1,000,000/year) represent 30% of the respondents, while the moderate-income group (1,000,000 - 3,000,000/year) constitutes the majority at 40%. Additionally, the high-income category

(3,000,000 - 5,000,000) contributes 20%, and those with very high income (above 5,000,000) account for 10%. This distribution emphasizes the economic diversity among the respondents, offering valuable insights into the socio-economic factors that may influence attitudes and practices regarding environmental conservation and sustainability in South West Nigeria.

Status	Frequency	Percentage
Employed	100	50
Unemployed	50	25
Self employed	30	15
Student	15	7.5
Retired	5	2.5
Total	200	100

Table 3: Employment Dynamics (200 Respondents)

Source: Researchers’ field work (2023)

Table 3 shows the employment dynamics analysis, which reveals varied occupational profile within the respondent pool. Employed individuals constitute 50% of the respondents, indicating a significant workforce actively engaged in various professional roles. Unemployed respondents make up 25%, while the self-employed contribute 15%, highlighting the entrepreneurial aspect of the population. Students represent 7.5%, indicating a

segment likely influenced by educational perspectives, and retired individuals make up 2.5%. This comprehensive distribution sheds light on the diverse employment statuses, offering valuable insights into the socio-economic factors that may shape perspectives and practices related to environmental conservation and sustainability in South West Nigeria.

Education Level	Frequency	Percentage
Primary School	20	10
Secondary School	50	25
Tertiary Education	100	50
Post Graduate Education	30	15
Total	200	100

Table 4: Access to Education (200 Respondents)

Source: Researchers’ field work (2023)

Table 4 give the analysis of access to education among the 200 respondents, it reveals a diverse educational background within the study population. Individuals with primary school education constitute 10% of the respondents, while those with secondary school education make up 25%. Tertiary education represents the majority at 50%, indicating a significant portion of the population has pursued higher education. Respondents with postgraduate

education contribute 15%, reflecting a segment with advanced educational qualifications. This distribution provides a nuanced understanding of the educational landscape, offering insights into how varying levels of education may influence perspectives and practices regarding environmental conservation and sustainability in South West Nigeria.

Aspects	Rural Areas	Urban Settings
Practices	Diverse practices including sustainable agriculture, agroforestry, and community-based initiatives.	Urban forestry programs, waste management systems, and green infrastructure projects.
	Traditional knowledge emphasizes sustainable resource use and a harmonious relationship with the environment	Sustainable urban planning and architecture contribute to green spaces and eco-friendly structures.
Challenges	Limited access to modern conservation technologies and resources.	Rapid urbanization leading to increased demand for resources and habitat loss.
	Economic constraints and dependence on natural resources for livelihoods.	Pollution from industrial activities, vehicular emissions, and waste disposal.
Unique Practices/Opportunities	Indigenous farming methods contribute to soil fertility and biodiversity conservation.	Implementation of green building practices and energy-efficient technologies
	Community-driven rituals and ceremonies promote environmental stewardship.	Public awareness campaigns and community engagement programs fostering environmental responsibility.
Common Challenges	Deforestation due to expanding agricultural activities.	Urban sprawl leading to land-use conflicts and reduced green spaces
	Soil erosion and degradation from unsustainable land practices.	Increased waste generation and inadequate waste management infrastructure.
	Lack of awareness and education on modern conservation methods.	Traffic congestion and air pollution from high-density urban activities.
Common Opportunities	Integration of traditional knowledge with modern conservation approaches.	Integration of smart technologies for efficient resource management
	Community engagement and empowerment for sustainable resource management	Development of urban green belts and parks to enhance biodiversity and provide recreational spaces
Role of Modernization and Policy Interventions	Limited due to economic constraints; traditional practices hold significance	Technology plays a crucial role in monitoring and managing environmental impact
	Government policies needed for effective conservation, incorporating traditional knowledge	Government policies promoting sustainable practices, incentives for green businesses, and stricter regulations
Socio-economic Impacts of Conservation	Economic constraints may limit access to modern technologies. Traditional practices are shaped by socio-economic factors.	Rapid urbanization driven by economic activities. Socio-economic factors influence the adoption of sustainable practices.

Comparative Analysis: Environmental Conservation in Rural and Urban Contexts

5.1. Findings

- **Demographic Influence:** The age distribution and economic diversity significantly influence conservation practices in both rural and urban settings, highlighting the need for tailored strategies.

- **Economic Constraints:** Economic limitations in rural areas hinder the adoption of modern conservation technologies, while urban areas leverage economic capacities for sustainable practices.
- **Educational Drivers:** Education levels play a pivotal role

in shaping conservation awareness, emphasizing the importance of targeted educational campaigns.

- **Community Engagement Impact:** Strong community ties in rural areas and diverse employment statuses in both settings underscore the vital role of community engagement for successful conservation initiatives.
- o **Distinct Conservation Practices:** a. Rural vs. Urban Dynamics: Conservation practices differ, influenced by a blend of traditional knowledge and modern strategies.
- o b. Common Challenges: Deforestation and pollution are shared challenges but manifest differently in each context.
- o c. Integration Opportunities: Integrating traditional knowledge with modern approaches presents an opportunity for comprehensive conservation.
- o d. Socio-economic Impact: Economic constraints shape practices in rural areas, while urbanization influences environmental challenges in urban settings.

5.2. Recommendation

- **Tailored Conservation Strategies:** Develop strategies that consider the demographic landscape, tailoring conservation efforts to resonate with the socio-economic characteristics of each setting.
- **Economic Empowerment:** Address economic constraints in rural areas through targeted initiatives that empower communities to adopt sustainable practices.
- **Educational Campaigns:** Implement educational campaigns focused on conservation awareness, leveraging the influence of education levels on environmental consciousness.
- **Community Involvement:** Foster strong community engagement, recognizing its crucial role in successful conservation initiatives.
- o **Holistic Conservation Approach:** a. Blend of Traditional and Modern: Encourage the integration of traditional knowledge with modern approaches for a comprehensive conservation strategy.
- o b. Common Challenge Mitigation: Develop solutions addressing common challenges like deforestation and pollution while considering the unique manifestations in each context.

6. Conclusion

In conclusion, the study illuminates the intricate dynamics of environmental conservation in South West Nigeria. In rural areas, traditional practices underscore the importance of biodiversity, yet economic constraints and limited access to modern technologies present challenges. Conversely, urban settings exhibit thriving environmental initiatives driven by urbanization, technology, and policy interventions. However, rapid urbanization introduces unique challenges such as pollution and habitat loss. The findings emphasize the value of integrating traditional knowledge with modern strategies for a comprehensive approach to conservation. Community engagement and empowerment emerge as pivotal elements in sustainable resource management across diverse landscapes. Striking a balance between economic development and conservation practices is essential for the long-term environmental health of both rural and urban environments. This study underscores the interconnectedness of these contexts, highlighting the need for integrated strategies that consider the socio-economic dynamics

of each community and foster collaboration for the well-being of ecosystems and communities alike in South West Nigeria.

Data Availability Statement

The author confirm that the data supporting the findings and the supplementary tables of this study are available within the article.

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